

## CLAIMS

What is claimed is:

1 1. A method for automatically generating a description of a data exchange format based  
2 on computer program source code expressed in a source language, the method comprising the  
3 computer-implemented steps of:

4 receiving, from a source code file, comment data including first data indicating a  
5 parameter of the data exchange format, wherein the comment data is ignored  
6 by a source code processor of the source language;

7 receiving from the source code file second data, associated with the comment data,  
8 indicating a statement that defines a class of data objects in the source  
9 language; and

10 automatically generating, based on the first data and the second data, third data that  
11 describes the data exchange format.

1 2. A method as recited in Claim 1, further comprising generating, based on the first data  
2 and the second data, a module to convert a data object of the class of data objects into a data  
3 item of the data exchange format as described by the third data.

1 3. A method as recited in Claim 1, further comprising generating, based on the third  
2 data, a module to convert a data object of the class of data objects into a data item of the data  
3 exchange format as described by the third data.

1 4. A method as recited in Claim 1, further comprising generating, based on the first data  
2 and the second data, a module to derive a data object of the class of data objects from a data  
3 item of the data exchange format as described by the second data.

1 5. A method as recited in Claim 1, further comprising generating, based on the third  
2 data, a module to derive a data object of the class of data objects from a data item of the data  
3 exchange format as described by the third data.



1 15. A method as recited in Claim 1, wherein the source language is Java®, wherein the  
2 first data includes a tag for an automated Java documentation system, and wherein the tag is a  
3 user-defined tag for the Java documentation system.

1 16. A method as recited in Claim 1, wherein the source language is Java®, wherein the  
2 first data includes a tag for an automated Java documentation system, wherein the tag is a  
3 user-defined tag for the Java documentation system, and wherein said step of generating the  
4 third data is performed by a user-defined routine invoked by the automated Java  
5 documentation system in response to the tag.

1 17. A method for binding a data exchange format with an application having source code  
2 in a particular language, the method comprising the steps of:  
3 inserting, into the source code within comment data ignored according to a processor  
4 for the particular language, first data including a tag and a parameter of a data  
5 exchange format; and  
6 causing a processor to produce second data for configuring the data exchange format  
7 based at least in part on the first data.

1 18. A method as recited in Claim 17, further comprising the steps of:  
2 causing the processor to produce at least one of a module for marshaling data objects  
3 into a data item in the data exchange format as configured by the second data  
4 and a module for de-marshaling data objects from a data item in the data  
5 exchange format as configured by the second data; and  
6 building the application based on the source code and at least one of the module for  
7 marshaling data and the module for de-marshaling data.

1 19. A method as recited in Claim 18, wherein the particular language is the Java  
2 language, wherein the tag is a user-defined tag of an automated Java documentation system;  
3 and wherein said step of causing a processor to produce the second data further comprises  
4 providing a routine, invoked by the automated Java documentation system in response to the  
5 tag, to produce the second data.

1 20. A method as recited in Claim 19, wherein the particular language is the Java  
2 language; wherein the tag is a user-defined tag of an automated Java documentation system;  
3 and wherein said step of causing a processor to produce at least one of the module for  
4 marshaling and the module for de-marshaling further comprises providing a routine, invoked  
5 by the automated Java documentation system in response to the tag, to produce at least one of  
6 a Java module for marshaling and a Java module for de-marshaling.

1 21. A computer-readable medium carrying one or more sequences of instructions for  
2 binding a data exchange format with an application having source code in a particular  
3 language, which instructions, when executed by one or more processors, cause the one or  
4 more processors to carry out the steps of:  
5 receiving, from a particular file that includes the source code, comment data including  
6 first data indicating a parameter of the data exchange format, wherein the  
7 comment data is ignored by a source code processor of the particular  
8 language;  
9 receiving from the particular file second data, associated with the comment data,  
10 indicating a statement that defines a class of data objects in the particular  
11 language; and  
12 generating, based on the first data and second data, third data for configuring the data  
13 exchange format.

1 22. An apparatus for binding a data exchange format with an application having source  
2 code in a particular language, comprising:  
3 means for receiving, from a particular file that includes the source code, comment  
4 data including first data indicating a parameter of the data exchange format,  
5 wherein the comment data is ignored by a source code processor of the  
6 particular language;  
7 means for receiving from the particular file second data, associated with the comment  
8 data, indicating a statement that defines a class of data objects in the particular  
9 language; and  
10 means for generating, based on the first data and second data, third data for  
11 configuring the data exchange format.

1 23. An apparatus for binding a data exchange format with an application having source  
2 code in a particular language, comprising:  
3 a processor;  
4 one or more stored sequences of instructions which, when executed by the processor,  
5 cause the processor to carry out the steps of:  
6 receiving, from a particular file that includes the source code, comment data  
7 including first data indicating a parameter of a data exchange format,  
8 wherein the comment data is ignored by a source code processor of the  
9 particular language;  
10 receiving from the particular file second data, associated with the comment  
11 data, indicating a statement that defines a class of data objects in the  
12 particular language; and  
13 generating, based on the first data and second data, third data for configuring  
14 the data exchange format.